



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,589	12/22/2003	Gregory J. Dunn	CML01206AT	7988

22917 7590 08/09/2005

MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL 60196

EXAMINER

TRINH, HOA B

ART UNIT	PAPER NUMBER
----------	--------------

2814

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,589

Applicant(s)

DUNN ET AL.

Examiner

Vikki H. Trinh

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☒ Claim(s) 14-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II, claims 7-15, in the reply filed on 05/25/05 is acknowledged. The traversal is on the ground(s) that the term "patterning" in the claimed steps is to include sub-steps of both lithography and etching. This is not found persuasive because the term "patterning" is broad. The term "patterning" is interpreted to have an equivalent meaning as the term "forming". As applicants explicitly stated from the American Heritage Dictionary, nowhere in the definition statement that the term "pattern" is described as to the inclusion of the terms "etching or lithography". It is noted that the steps of etching and lithography in the art of fabricating electronic circuits are more specific and narrow than the term "patterning".

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-6 and 16-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 05/25/05.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2814

4. Claims 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunn et al. (PCT WO 00/56128) (hereinafter Dunn).

As to claim 7, Dunn discloses a method for fabricating a patterned resistor on a substrate comprising patterning two conductive end terminations 28, 30 (figs 2-3) on the substrate 6 (figs 2-3); patterning a first layer 14 or 16 (figs 2-3; page 5, lines 15-16) of resistive material having a first sheet resistance 8 (figs 2-3) to have a first width and to extend on the substrate between the two conductive end terminations 28, 30; patterning a second layer 4 (figs 2-3; page 4, line 9) of resistive material having a second sheet resistance 18 (figs 2-3) to have a second width, to extend between the two conductive end terminations 28, 30 (figs 2-3), and to at least partially overlay the first layer 14 or 16 (fig. 3) of resistive material; and patterning one of the first and second layers of resistive material to extend onto the two conductive end terminations 28, 30 (figs 2-3), wherein one of the first and second sheet resistances is a low sheet resistance and the other of the first and second resistances is a high sheet resistance, and wherein a ratio of the high sheet resistance to the low sheet resistance is at least ten to one (page 4, lines 2-11), and wherein one of the first and second resistive materials is substantially wider than the other of the patterns of first and second resistive material (figs 2-3). Note that though Dunn reference named character 14 or 16 as a pad, the reference also describes that the characters 14 and 16 (figs 2-3) are made of the same low resistance material as the low resistor 2 (page 5, lines 15-18) in the same processing step because it reduces cost. Thus, character 14 and/or 16 (figs 2-3) may also be functioned as the low resistor 2 (figs 2-3) giving the same material and characteristics. Further note that applicant can be his or her own lexicon.

As to claim 8, the one of the patterns of first and second resistive materials that has the high sheet resistance is at least 50% wider than the other of the patterns of first and second resistive material (figs 2-3; page 4, lines 8-24).

As to claim 9, the one of the patterns of first and second resistive materials that has the high sheet resistance is at least 50 microns wider than the other of the patterns of first and second resistive material (figs 2-3; page 4, lines 8-24).

As to claim 10, the method further includes applying the first layer of resistive material by one of screen printing (page 1, line 20) , and applying the second layer of resistive material by one of screen printing, stenciling, direct writing, and foil lamination (page 4, lines 16-19).

As to claim 11, the step of patterning of the one of the first and second layers of resistive materials to extend onto the two conductive end terminations, comprises patterning the one of the first 4 and second layers 14, 16 of resistive materials that has a low sheet resistance to extend onto the two conductive end terminations 28, 30 (figs. 2-3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 2814

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn, as applied to claim 7 above, in view of Swenson et al. (6,534,743) (hereinafter Swenson).

Dunn discloses the invention substantially as claimed. However, Dunn does not explicitly teach the step of fine tuning the resistor using a fine trim kerf that is extended into one of the resistors or the step of coarse tuning the resistor using a coarse trim kerf that extends into of the resistors.

Swenson discloses an analogous method of resistor trimming using fine tune kerf 30 (col. 2, line 18) through the resistor material of the resistor and a coarse trim kerf (col. 2, lines 3-6) to extend into the resistor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Dunn with the fine trim kerf and the coarse trim kerf, as taught by Swenson, so as to provide an improved trimming techniques (col. 3, lines 22-23).

Allowable Subject Matter

9. Claims 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:
The method, as claimed, further comprising determining positions of edges of the patterned first and second layers of resistive materials, using the positions of the edges to determine a large offset side of the patterned resistor that has a larger separation between the edges of the patterned first and second layers of resistive materials, and starting the fine trim kerf at the large offset side of the patterned resistor, and other steps in the claims.

Conclusion


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vikki Trinh whose telephone number is (571) 272-1719. The Examiner can normally be reached from Monday-Friday, 9:00 AM - 5:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Wael Fahmy, can be reached at (571) 272-1705. The office fax number is 703-872-9306.

Any request for information regarding to the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Also, status information for published applications may be obtained from either Private PAIR or Public Pair. In addition, status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. If you have questions

Art Unit: 2814

pertaining to the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.


Vikki Trinh,
Patent Examiner
AU 2814